AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A moving image watermarking method using a human visual system, comprising the steps of:

a) obtaining a watermark value by exclusive-ORing a random key value and a binary value of a logo image;

b) separately performing a plurality of masking operations, wherein the plurality of the masking operations are separately performed on identical moving image data;

c) obtaining a global masking value through the separately performed masking operations;

d) obtaining a watermarked frame value by adding the watermark value weighted by the global masking value and a control variable, to an original frame value; and

e) inserting a watermark into a moving image frame using the watermarked frame value,

wherein the step b) comprises the step of performing a motion masking operation.

2. (previously presented): The watermarking method according to claim 1, wherein the step b) further comprises the step of performing a spatial masking operation.

3. (previously presented): The watermarking method according to claim 2, wherein the performing the spatial masking operation comprises the steps of:

adjusting contrast of the moving image frame; and

extracting edges from the contrast-adjusted frame.

4. (previously presented): The watermarking method according to claim 2, wherein the performing the motion masking operation comprises the steps of:

obtaining a luminance difference between a current frame and a previous frame; and

extracting edges from the current frame.

5. (original): The watermarking method according to claim 2, wherein the step b) further comprises the step of performing a frequency masking operation.

6. (currently amended): ~~The watermarking method according to claim 1, further comprising the steps of:~~

A moving image watermarking method using a human visual system, comprising the steps of:

a) obtaining a watermark value by exclusive-ORing a random key value and a binary value of a logo image;

b) separately performing a plurality of masking operations;

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c) obtaining a global masking value through the separately performed masking operations;

d) obtaining a watermarked frame value by adding the watermark value weighted by the global masking value and a control variable, to an original frame value;

e) inserting a watermark into a moving image frame using the watermarked frame value;

f) comparing an image quality of the watermarked frame with an image quality set to a target; and

g) decreasing the control variable by a predetermined value if the image quality of the watermarked frame is less than the target image quality, and increasing the control variable by a predetermined value if the image quality of the watermarked frame is greater than the target image quality.

7. (original): The watermarking method according to claim 6, wherein the image quality is estimated on the basis of Peak-Signal-to-Noise Ratio (PSNR).

8. (currently amended): The watermarking method according to claim 1, further comprising the step of f) extracting the watermark, the step f) comprising the steps of:

subtracting a the watermarked frame value from the original frame value to obtain a subtracted result value; and

exclusive-ORing the subtracted result value and a random variable obtained by a key value, and obtaining ~~the~~ an exclusive-ORed result.

9. (currently amended): A ~~spatial masking~~ method ~~for use in~~ of watermarking a moving picture, the method comprising ~~the steps of~~:

adjusting contrast of a moving image frame;

extracting edges from the contrast-adjusted frame; and

inserting a watermark in portions of the contrast-adjusted frame from which the edges were extracted. ~~; and~~

~~storing the extracted edges in a recording medium.~~

10. (currently amended): A ~~motion~~ masking method ~~for use in~~ of watermarking a moving picture, the method comprising ~~the steps of~~:

obtaining a luminance difference between a current frame and a previous frame;

extracting edges from the current frame based on the obtained luminance difference; and

inserting a watermark in portions of the current frame from which the edges were extracted. ~~; and~~

~~storing the extracted edges in a recording medium.~~

11. (currently amended): A recording medium for storing computer programs for

executing ~~the method of claim 1 in a format readable by computers~~ a moving image watermarking method using a human visual system, the moving image watermarking method comprising:

a) obtaining a watermark value by exclusive-ORing a random key value and a binary value of a logo image;

b) separately performing a plurality of masking operations, wherein the plurality of the masking operations are separately performed on identical moving image data;

c) obtaining a global masking value through the separately performed masking operations;

d) obtaining a watermarked frame value by adding the watermark value weighted by the global masking value and a control variable, to an original frame value; and

e) inserting a watermark into a moving image frame using the watermarked frame value,

wherein the step b) comprises the step of performing a motion masking operation.

12.-15. (canceled).